

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave.St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003411**Date Inspected:** 27-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li Yan Hua**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Ken Jobes, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, to randomly monitor welding and Quality Control (QC) functions. While on site, the QA Inspector observed and/or discovered the following:

After arriving, ZPMC QA representative, Zhang Jiadi informed us that all work for the night had been cancelled due to flooding. However, the following work was observed.

This Caltrans QA Inspector and Caltrans Inspector Larry Viars observed activities associated with the Production Monitoring Test (PMT) of Orthotropic Box Girder (OBG) U-ribs to deck plate welds.

The PMT representing Deck Panels DP222-001 and DP617-001 was monitored. After magnetic particle examination (MT) of the tack welds was accepted by ZPMC, three ribs (six welds) were welded to the simulated deck plate. The Welding Procedure Specification (WPS) used was WPS-B-T-2342-U1(Urib)-3. It is a combination procedure using gas metal arc welding (GMAW) for the root pass and submerged arc welding (SAW) for the cover or fill pass. The filler metals being used were verified to be as specified on the WPS; 1.4 mm diameter, ER70S-6 (JM-56) for GMAW and 4.8 mm diameter EM12K (JW-3) for SAW. In addition, the specified flux, JF-B, was verified for SAW. During the test, the parameters of amperage, voltage, and travel speed were recorded on the U-Ribs PMT Inspection Sheet for both welding processes by the Caltrans QA Inspector Viars. The final weld was visually examined and accepted by ZPMC, ABF and Caltrans QA, and appeared to meet the requirements of the specification. After ultrasonic examination (UT) and acceptance by ZPMC, Caltrans QA designated the locations for the fifteen required macro-etch specimens. All macro-etch specimens were prepared

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and found acceptable by ZPMC, ABF and Caltrans QA.

All above observations appeared to meet the requirements of the job specifications.

### Summary of Conversations:

As identified within the contents of this report.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ady Velasco (13816942685) China, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Jobes, Kenneth	Quality Assurance Inspector
<b>Reviewed By:</b>	Carreon, Albert	QA Reviewer

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